

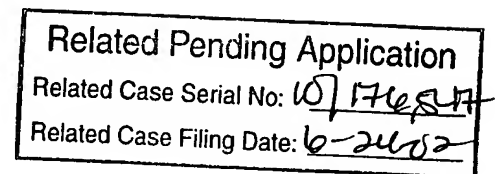
What is claimed is,

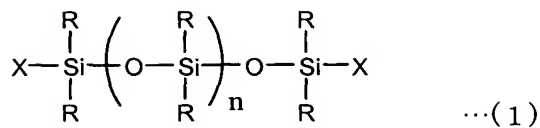
1. A surface modified inorganic oxide powder, comprising inorganic oxide particles having a surface modified with a mixed solution comprising an organopoly-siloxane and a silane compound in the presence of an acid or a base.

2. The surface modified inorganic oxide powder according to claim 1, wherein a mixing ratio of the organopoly-siloxane and the silane compound (organopoly-siloxane / silane compound) is 200 / 1 to 1 / 1 by weight.

3. The surface modified inorganic oxide powder according to claim 1, wherein the organopoly-siloxane has the following general formula (1)

**FOR INFORMATION  
DISCLOSURE  
PURPOSES ONLY**





wherein R is each independently a hydrogen or an alkyl group, which alkyl group may be optionally substituted with a vinyl group, a phenyl group, a poly ether group, an epoxy group, or an amino group, X is a hydrolysis group of R, a halogen atom, a hydroxyl group, or an alkoxy group, and n is an integer of 15 to 500.

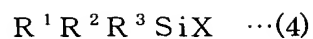
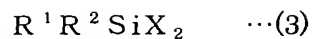
4. The surface modified inorganic oxide powder according to claim 1,

wherein the organopoly-siloxane is a dimethylpoly-siloxane having a viscosity of 10 · 2000cSt at 25°C.

5. The surface modified inorganic oxide powder according to claim 1,

wherein the silane compound is an alkoxy silane having a formula selected from the group consisting of formulas (2), (3), (4), and mixtures thereof:

FOR INFORMATION  
DISCLOSURE  
PURPOSES ONLY



where R, R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are each independently an alkyl group, X is a halogen atom, a hydroxyl group, or an alkoxy group.

6. The surface modified inorganic oxide powder according to claim 5,

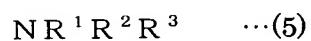
wherein the silane compound has the formula (2), where the number of carbons in R is more than 6, and wherein X is a methoxy group or an ethoxy group.

7. The surface modified inorganic oxide powder according to claim 1,

wherein when the surface is modified in the presence of an acid, the acid comprises an inorganic acid or an organic acid.

FOR INFORMATION  
DISCLOSURE  
PURPOSES ONLY

8. The surface modified inorganic oxide powder according to claim 1, wherein when the surface is modified in the presence of a base, the base comprises ammonia or an amine having the following formula (5)



where  $\text{R}^1$ ,  $\text{R}^2$ , and  $\text{R}^3$  are each independently hydrogen, a methyl group, or an ethyl group, and may each independently be substituted with a vinyl group, a phenyl group, or an amino group.

9. The surface modified inorganic oxide powder according to claim 1, having a normal hexane extraction rate of less than 30%.

10. The surface modified inorganic oxide powder according to claim 1, wherein the inorganic oxide powder has a specific surface area of 100 to 400m<sup>2</sup> / g

by BET.

11. The surface modified inorganic oxide powder according to claim 1, wherein the inorganic oxide powder is selected from the group consisting of silica, titania, alumina, and mixtures thereof.

12. A process for producing a surface modified inorganic oxide powder comprising:

contacting at least one selected from the group consisting of an acid, an amine, ammonia, and a mixture thereof with a mixed solution comprising an organopoly-siloxane and a silane compound to obtain a surface treatment liquid,

contacting an inorganic oxide powder with said surface treatment liquid by at least one of the following (1), (2), and a combination thereof:

(1) spraying said surface treatment liquid on said inorganic oxide powder

under ammonia gas atmosphere, or

(2) dipping said inorganic oxide powder into said surface treatment liquid;

and heating the powder.

13. The process for producing the surface modified inorganic oxide powder

according to claim 12, wherein at least 0.01 to 1 parts by weight of the acid, amine,

or ammonia are contacted with 100 parts by weight of the mixed solution,

wherein the organopoly-siloxane and silane compound are present in the

surface treatment liquid in an organopoly-siloxane/silane compound weight ratio

ranging from 200/1 to 1/1,

FOR INFORMATION  
DISCLOSURE  
PURPOSES ONLY

wherein the surface treatment liquid is sprayed on the inorganic oxide powder, while stirring the powder under a non-oxidizing atmosphere, and

wherein the powder is heated at 200°C - 400°C.

14. A polar resin compound, comprising:

the surface modified inorganic oxide fine powder according to claim 1 in an amount of less than 50% by weight; and  
at least one polar resin.

15. The polar resin compound according to claim 14, wherein the polar resin comprises at least one resin selected from the group consisting of urethane resin, epoxy resin, acrylic resin, unsaturated polyester resin, vinyl ester resin, a

silicone denaturation resin, and a mixture thereof.

16. An adhesive or sealant, comprising the polar resin composite according to claim 14.

FOR INFORMATION  
DISCLOSURE  
PURPOSES ONLY